

WHAT IS CLAIMED IS:

- Sub #
- B1
1. A mini-packet protocol, comprising:
 - 2 assembling mini-packets into a payload wherein each mini-packet
 - 3 includes an associated mini-header for ensuring proper processing of each
 - 4 mini-packet; and
 - 5 adding padding to mini-packets when the mini-packets are encrypted to
 - 6 insure each mini-packet is an integral multiple of a predetermined block size.
 - 1 2. The mini-packet protocol of claim 1 wherein padding for each
 - 2 mini-packet is determined according to:
 - 3
$$p = n - k * \text{floor}((n-1)/k),$$
 - 4 wherein p is the amount of padding added to each mini-packet, n is the actual
 - 5 data size, and k is the block size.
 - 1 3. The mini-packet protocol of claim 2 wherein the padding added
 - 2 to the data for each packet comprises p-1 units of padding and a final padding
 - 3 unit for indicating the amount of padding.
 - 1 4. The mini-packet protocol of claim 3 wherein the unit is bytes.
 - 1 5. The mini-packet protocol of claim 1 further comprising adding an
 - 2 authenticator to each mini-packet.

1 9. The mini-packet protocol of claim 7 wherein the type of
2 authentication comprises HMAC-MD5 and be authenticator is 16 bytes.

1 10. A mini-packet controller, comprising:
 2 a disassembler for receiving a payload, the payload including a plurality
 3 of mini-packets, wherein the disassembler dismantles the payload into
 4 individual mini-packets;
 5 a controller and signaling module, coupled to the disassembler, for
 6 processing the individual mini-packets, the controller further assembling the
 7 individual mini-packets into a payload wherein each mini-packet includes an
 8 associated mini-header for ensuring proper processing of each mini-packet and
 9 adding padding to mini-packets when the mini-packets are encrypted to insure
 10 each mini-packet is an integral multiple of a predetermined block size; and
 11 an assembler for combining mini-packets into a new payload for
 12 transmission via an output port.

1 11. The mini-packet controller of claim 10 wherein the padding for
 2 each mini-packet is determined according to:

$$3 \quad p = n - k * \text{floor}((n-1)/k),$$

4 wherein p is the amount of padding added to each mini-packet, n is the actual
 5 data size, and k is the block size.

1 12. The mini-packet controller of claim 11 wherein the added padding
 2 for each packet comprises p-1 units of padding and a final padding unit for
 3 indicating the amount of padding.

1 13. The mini-packet controller of claim 12 wherein the units are bytes.

1 14. The mini-packet controller of claim 10 wherein the controller and
2 signaling module adds an authenticator to each mini-packet.

1 15. The mini-packet controller of claim 14 wherein the controller sets
2 a length indicator in each mini-header for indicating a total length of the mini-
3 packet including the authenticator.

1 16. The mini-packet controller of claim 15 wherein the controller and
2 signaling module removes authenticators based upon knowing a type of
3 authentication used for generating an authenticator.

1 17. The mini-packet controller of claim 16 wherein the type of
2 authentication comprises HMAC-SHA1 and the authenticator is 20 bytes.

1 18. The mini-packet controller of claim 16 wherein the type of
2 authentication comprises HMAC-MD5 and the authenticator is 16 bytes.

1 19. An article of manufacture comprising a computer readable
 2 medium having instructions for causing a computer to perform a method
 3 comprising:
 4 assembling mini-packets into a payload wherein each mini-packet
 5 includes an associated mini-header for ensuring proper processing of each
 6 mini-packet; and
 7 adding padding to mini-packets when the mini-packets are encrypted to
 8 insure each mini-packet is an integral multiple of a predetermined block size.

1 20. The mini-packet protocol of claim 19 wherein padding for each
 2 mini-packet is determined according to:
 3
$$p=n-k*\text{floor}((n-1)/k)$$

 4 wherein p is the amount of padding added to each mini-packet, n is the actual
 5 data size, and k is the block size.

1 21. The mini-packet protocol of claim 20 wherein the padding added
 2 to the data for each packet comprises p-1 units of padding and a final padding
 3 unit for indicating the amount of padding.

1 22. The mini-packet protocol of claim 21 wherein the unit is bytes.

1 23. The mini-packet protocol of claim 19 further comprising adding
 2 an authenticator to each mini-packet.

1 27. The mini-packet protocol of claim 25 wherein the type of
2 authentication comprises HMAC-MD5 and be authenticator is 16 bytes.